Calorics

Brought forward. . . . . ..IMS

3, There is 0'42 cubic inot.ro distillation #as driven off, and for tho requisite amount of heat for this, there are. scarcely any estimates at disposal. In order to obtain some sort of data,, and not to place it too low, lot it be assumed that tho distillation gas requires a little more heat for its formation than steam on its formation from water, which possesses tho highest latent heat of vaporisation, of all known substances; then (V42 cubic metre distillation <^a,s requires about . . 200

4. The coal contains JJ per cont. hygroscopic and 12 per cent, of chemically combined water, thus together 15 per cent., with 75 per cent, carbon ; thus there is with 1 kilogramme 0 20 per cout. of water, and this requires for its evaporation, 0*20 X <>()() - 120

Or the total required ..... ;- - <>8«">

so that of the 1,855 calories which the available boat of tho steam-air gas, amounted to 1,855 -f>B5=l,170 remain as available heat of the escaping gases.

The quantity of gas amounts now, however, no longer to 5*01 cubic metres, as was given on p. 78, but it has increased itself to the extent of 0*20 kilogramme water-vapour=0'25 cubic metre steam.

For determination of tho temperature which this amount of gas must possess at an available beat corresponding to 1,170 calories, the values for the mean specific boats of tho gases at 700° are used, from which the moan specific boats of the gases are

5*01 cubic metre producer gas X O'.'W-l 1 ?~~. 1 *(>7.'JN 0-5W „

steam XlHWilTri O'llMKJ

5"ti<5 cubic metro gases (J J ~. 1 'SO.'Jl

and the temperature of outgoing gas results as /.= (= -';••. — =

C JL oUt/JL

650°.

For a specified fuel, tho temperature of the gas must remain constant, so long as the working oE tho producer remains normal, since then no cause would be present to prevent its attaining a permanency.

On the other hand, variations of the normal gas temperature must bring one to the conclusion that some abnormal conditions have occurred.

Of such variations, one finds most frequently highly